

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>44928-026</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. <b>PCT/US2004/013623</b>	International filing date (day/month/year) <b>30/04/2004</b>	(Earliest) Priority Date (day/month/year) <b>02/05/2003</b>
Applicant  <b>ANCRA INTERNATIONAL, LLC</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☐ Unity of invention is lacking (see Box III).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. With regards to the drawings,**

- a. the figure of the drawings to be published with the abstract is Figure No. 8

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☒ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2004/013623

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A steerable, retractable power drive unit (SRPDU) is provided for installation into a transport vehicle for moving cargo in mutually perpendicular directions, such as a doorway are where containers need to move both laterally and longitudinally in a cargo vehicle. The SRPDU rotates upon application of an external command, to orient the drive unit in the required direction and to drive the cargo containers. The SRPDU comprises a stationary support (1010) for fixedly attaching to a vehicle structure and a rotating support (1020) rotatably mounted to the stationary support. A drive assembly is movably mounted to the rotating support, the drive assembly comprising a roller (120) and a first electronically controlled electric motor for rotating the roller. A lift assembly (150) mounted to the drive assembly has a second electronically controlled electric motor for moving the drive assembly relative to the rotating support from a retracted position substantially within the rotating support to an extended position with the roller in driving abutment against the cargo. A rotation drive assembly has a third electronically controlled electric motor (1030) on the rotating support for rotating the rotating support relative to the stationary support. An electronic controller (1060) controls the first, second and third motors.

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B64D9/00 B65G13/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B64D B65G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 547 069 A (PRITCHARD ROBERT J) 20 August 1996 (1996-08-20) the whole document	1-9, 11-48
Y	WO 02/079071 A (MCCONNELL MATTHEW S ; LEINGANG ALAN F (US); WOLFE ROBERT M (US); ANCRA) 10 October 2002 (2002-10-10) cited in the application claims figures	1-9, 11-48
Y	US 6 254 033 B1 (URCH MATTHIAS ET AL) 3 July 2001 (2001-07-03) the whole document	3
	----- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

18 August 2004

Date of mailing of the international search report

30/08/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax (+31-70) 340-3016

Authorized officer

Pedersen, K

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/013623

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 589 542 A (STEADMAN STEPHEN T) 20 May 1986 (1986-05-20) cited in the application the whole document -----	4-9, 15-20
A	DE 39 19 613 A (ELECTRO PNEUMATIC INT) 20 December 1990 (1990-12-20) the whole document -----	1-48
A,P	CA 2 373 692 A (AERO UNION CORP) 27 August 2003 (2003-08-27) the whole document -----	1-48

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/013623

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5547069	A	20-08-1996	CA	2056331 A1	31-07-1992
			DE	69107605 D1	30-03-1995
			DE	69107605 T2	14-06-1995
			EP	0497045 A1	05-08-1992
			JP	1967874 C	18-09-1995
			JP	4303308 A	27-10-1992
			JP	6104482 B	21-12-1994
WO 02079071	A	10-10-2002	CA	2442072 A1	10-10-2002
			EP	1373122 A2	02-01-2004
			WO	02079071 A2	10-10-2002
US 6254033	B1	03-07-2001	DE	19807229 A1	02-09-1999
			DE	59900563 D1	31-01-2002
			EP	0937665 A1	25-08-1999
US 4589542	A	20-05-1986	NONE		
DE 3919613	A	20-12-1990	DE	3919613 A1	20-12-1990
CA 2373692	A	27-08-2003	CA	2373692 A1	27-08-2003

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/US2004/013623

International filing date (day/month/year)  
30.04.2004

Priority date (day/month/year)  
02.05.2003

International Patent Classification (IPC) or both national classification and IPC  
B64D9/00, B65G13/06

Applicant  
ANCRA INTERNATIONAL, LLC

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Pedersen, K

Telephone No. +49 89 2399-2874



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

**10/555093**  
International application No.  
PCT/US2004/013623

**RECEIVED** **12 NOV 2005**

**Box No. 1 Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2004/013623

---

**Box No. II Priority**

---

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

---

**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

---

1. Statement

Novelty (N)	Yes: Claims	1-48
	No: Claims	
Inventive step (IS)	Yes: Claims	10
	No: Claims	1-9, 11-48
Industrial applicability (IA)	Yes: Claims	1-48
	No: Claims	

2. Citations and explanations

see separate sheet



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2004/013623

**Point V, 2**

1. Cited documents (D)

D1: US-A-5 547 069  
D2: WO 02/079071  
D3: US-A-6 254 033  
D4: US-A-4 589 542  
D5: DE-A-39 19 613  
D6: CA-A-2 373 692

2. Claim 1

2.1 In the wording of claim 1 the document D1 discloses

An apparatus for conveying cargo, the apparatus comprising:  
a stationary support (92) for fixedly attaching to a vehicle support;  
a drive assembly movable mounted to the rotating support, the drive  
assembly comprising a roller (34) and a first electric motor (38) for rotating the  
roller;

a lift assembly (98) comprising a second electric motor (100) for moving the  
drive assembly relative to the rotating support from a retracted position  
substantially within the rotating support to an extended position with the roller in  
driving contact against the cargo (col. 5, l. 63 to col. 6, l. 10); and

a rotation drive assembly (130) comprising a third electric motor (132) for  
rotating the rotating support relative to the stationary support.

2.2 The subject-matter of claim 1 therefore differs from this known apparatus in that  
the motors are electronically controlled and that it comprises an electronic  
controller for controlling the first, second and third motors. D1 does not mention  
how the motors are controlled.

The subject-matter of claim 1 is therefore new (Article 33(1) and (2) PCT).

2.3 It is however already known from D2 to employ such motors and such a controller  
in a similar apparatus. The skilled person would regard is as a normal design  
measure to employ these features in the apparatus of D1 to effect control of the

apparatus. The subject-matter of claim 1 does therefore not involve an inventive step (Articles 33(1) and (3) PCT).

3. Dependent claims

- 3.1 The additional features of claim 2 are known and follow without exercising an inventive step from D2 or D3.
- 3.2 The additional features of claim 3 would seem to be a normal design measure in the art which does not involve an inventive step.
- 3.3 The additional features of claims 4-9 follow without exercising an inventive step from D1 and D4.
- 3.4 There would appear to no leads in the prior art to locating ball transfer units on the (limited space available on the) rotating support, as defined in claim 10, such units being normally located separately from the SPDU.
- 3.5 The additional features of claim 11 follow without exercising an inventive step from D2 (claim 26).
- 3.6 The additional features of claims 12-14 are known and follow without exercising an inventive step from D2 (claims 27-29).
- 3.7 The additional features of claims 15-20 follow without exercising an inventive step from D1, D2 and D4.
- 3.8 The additional features of claims 21-34 are known and follow without exercising an inventive step from D2 (claims 2-15).
- 3.9 The additional features of claims 35 follow without exercising an inventive step from D2 (claim 16).
- 3.10 The additional features of claims 36-44 are known and follow without exercising an inventive step from D2 (claims 17-25).

3.11 The additional features of claims 45-46 follow without exercising an inventive step from D2 (claims 30-31).

3.12 The additional features of claims 47-48 are known and follow without exercising inventive step from D2 (claims 32-32).

**Formal Observations**

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D3 is not mentioned in the description, nor are these documents identified therein.
2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
3. Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, with the preamble based on D1.